

NEW FOREST NATIONAL PARK AUTHORITY

AUTHORITY MEETING – 26 MARCH 2008

COASTAL ISSUES IN THE NEW FOREST NATIONAL PARK

Report by: Stephen Trotter, Director of Conservation, Recreation and Sustainable Development.

Summary:

The New Forest National Park has a coastal frontage of around 34 km. In planning for and delivering National Park purposes on this coastline, the Authority needs to consider a wide range of factors and interests.

This report aims to summarise the key issues that affect the National Park coastline as background to and supporting information for the preparation of a number of key policies and plans by the Authority.

Recommendation:

To comment on and note the report.

Papers:

NFNPA 243/08:	Cover paper
NFNPA 243/08 Annex 1:	References and sources of information
NFNPA 243/08 Annex 2:	The legislative policy and planning framework for the coast
NFNPA 243/08 Annex 3:	Relevant organisations and their representatives
NFNPA 243/08 Annex 4:	Current policies on the National Park Coastline

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1 Introduction

- 1.1 Located in the western arm of the Solent, the New Forest coastline stretches for approximately 60 km from Chewton Bunny through to Redbridge at the head of Southampton Water¹. (See **Annex 1** for a list of references.) The section of coastal frontage that lies within the National Park is around 34 km in length².
- 1.2 The key physical features of the New Forest coastline are that it is predominantly low lying and has a soft geology. As an estuarine environment lying in the lee of Hurst Spit and the Isle of Wight, the New Forest foreshore is sheltered from the severe wave action that affects more exposed shorelines.
- 1.3 The western arm of the Solent is thought to have developed in the last 7000 – 7500 years³ due to continuing relative sea level rise and coastal flooding following the end of the last ice age. Coastal flooding and the loss of land to the sea is therefore not a new process in the Western Solent.
- 1.4 The coastline of the New Forest is a fascinating exemplar of how people interact with the marine environment. The relationship has a long and complex history which reflects how human society has adapted to the changing coastal scene and how people have exploited natural resources according to needs of local communities and the level of available technology³.
- 1.5 Much of the coastal fringe has been developed to a greater or lesser degree and many important assets have been located close to the sea in relatively recent times (at least in comparison with the geological history of the Solent). Consequently coastal protection works have often been constructed to minimise the risk of flood damage and potential loss of these assets. Defence structures currently protect a significant proportion of the coast especially between Keyhaven and Lymington - where the highest concentrations of 'assets' are located.

- 1.6 The most important protection for the National Park coastline is provided by Hurst Spit which shields the shoreline from the most severe wave events from a south-westerly direction¹. Although the Spit is a natural feature, it has been artificially reinforced to enhance its defensive capacity following several breaches in the 1970s and 1980s¹.
- 1.7 The coast remains a dynamic environment that is constantly changing and responding to physical processes and human activities. Climatic and environmental change will continue to be a significant driver for the way people interact at the boundary between land, sea and air.
- 1.8 The Authority needs to develop its understanding and knowledge of the issues concerned if it is to develop a clear strategic and policy framework for the coastline within its 'jurisdiction' and to influence policies affecting the wider coastal area. The complexity of coastal issues and the sheer range and number of those people with an interest in coastal management dictates that the Authority cannot do this in isolation. Close working with partners and stakeholders will be essential if the Authority is to influence and contribute to others' work and deliver National Park purposes through the planning system⁸.

2 Special qualities of the National Park coastline

- 2.1 The unspoilt and undeveloped nature of the coastal landscape is cited as being a special quality in the headline list of special qualities approved by the Authority in June 2007⁹.
- 2.2 The special qualities of the National Park's coast are described in greater detail in **Table 1**.

Table 1 Special qualities of the New Forest National Park coast⁹

New Forest National Park Special Quality	Expression on the coast
Landscape and outstanding natural beauty	<p><i>An unspoilt coastline with seascape views of the Solent and Isle of Wight</i></p> <ul style="list-style-type: none"> ▪ The relatively wild and flat Solent shoreline ▪ Dramatic features of geomorphological interest e.g. shingle shores, salt marsh, mud flats, soft cliffs, barrier beaches, spits and saline lagoons ▪ Grazed coastal marsh with a network of ditches and creeks ▪ A wooded foreshore between Calshot and Lymington
Nature conservation	<p><i>An extraordinary diversity of plants and animals of international importance</i></p> <p>Key designations for wildlife include:</p> <ul style="list-style-type: none"> ▪ The Solent and Southampton Water Special Protection Area (SPA) for birds with significant populations of over wintering and breeding assemblages of birds

	<ul style="list-style-type: none"> ▪ Solent Maritime Special Area of Conservation (SAC) with: <ul style="list-style-type: none"> ▪ Shingle banks ▪ Mud flats ▪ Salt marsh ▪ Solent and Isle of Wight Lagoons SAC ▪ Ramsar features ▪ Lands upon which the management of the SACs and SPA are dependant e.g. feeding areas and high tide roost sites ▪ Various SSSI designations ▪ Sites of Importance for Nature Conservation (SINCS) <ul style="list-style-type: none"> ▪ Protected Species sites ▪ Wooded foreshore
Tranquillity	<ul style="list-style-type: none"> ▪ <i>Tranquillity in the midst of the busy, built up south of England</i>
Cultural heritage and archaeology	<p><i>A unique historic, cultural and archaeological heritage from royal hunting ground to ship-building, salt making and 500 years of military coastal defence including:</i></p> <ul style="list-style-type: none"> ▪ Shipbuilding - Bucklers Hard / Lepe ▪ Maritime defence infrastructure including Calshot and Hurst Castle ▪ Second world war and D Day landing artefacts ▪ Hundreds of other archaeological sites ▪ Salt making industry remains and Salterns
Recreation	<p><i>Wonderful opportunities for quiet recreation, learning and discovery in one of the last extensive, gentle landscapes in the south:</i></p> <ul style="list-style-type: none"> ▪ Yachting and maritime activity – the Solent is reputed to have the largest recreational fleet in the world with a significant proportion in the western Solent ▪ Excellent walking and access to 56% of the coastline²
A working landscape / economic activity	<p>An historic commoning system that extends to parts of the foreshore - and a working landscape including on the coast:</p> <ul style="list-style-type: none"> ▪ Fishing ▪ Boat building ▪ Tourist-related business activity
A healthy environment	<p><i>Fresh air, clean water, local produce and a sense of 'wildness'</i></p>
Local Communities	<p><i>Strong and distinctive local communities with real pride in and sense of identity with their local area</i></p>

3 The coastal policy framework and organisational responsibilities

- 3.1 The coastal policy framework for England and Wales is neither simple nor straightforward. In the Solent area there are over 100 plans and policies that relate to the coastal and marine environment⁷.
- 3.2 Some relevant policies, plans and legislation are listed in **Annex 2**.
- 3.3 A number of organisations have a role to play in coastal management. Those relevant to the New Forest National Park are listed in **Annex 3**.
- 3.4 A description of the coastal units in the National Park and the current strategic management policies are presented in **Annex 4**.

4 Role of the National Park Authority on the coastline

- 4.1 The conservation and enhancement and/or promotion of the understanding and enjoyment of the features and attributes listed in **Table 1** should represent the main considerations for the Authority when considering coastal issues and options.
- 4.2 The Authority is not an 'operating' authority in respect of coastal protection and has no direct statutory responsibilities for flood defence management.
- 4.3 As the local planning authority however, it has a key responsibility for the land use planning system (i.e. development control and preparing the local development framework) down to the mean low water mark⁴.
- 4.4 As such the Authority has an important role in planning to mitigate and manage coastal risks. It should ensure that risk is balanced against the two purposes but should also:
 - seek to minimise the risk to life and property by ensuring that only development which will not generate unacceptable risk is permitted;
 - permit appropriate coast protection and flood defence works (where these require planning permission) to allow policies to manage risk of erosion and flooding to be implemented where they fit with the wider coastal defence strategy;
 - ensure that neither development in general, nor coast protection and flood defence works in particular, pre-empt choices about the future management of the shoreline;
 - prepare and publish policy concerning development at the coast;
 - contribute to increasing public awareness by informing local people of coastal hazards and risk such as instability, erosion and flood risk. This is important at the local level, particularly in the context of climate change and the expected increased frequency of extreme events⁴.

5 Factors driving change on the coast

5.1 There are six key factors that are likely to drive change on the New Forest coast and which have the potential to affect the special qualities:

- relative sea level rise
- climate change
- pressure for development
- legislative change
- loss of salt marsh habitat, coastal squeeze and European wildlife legislation
- availability of resources.

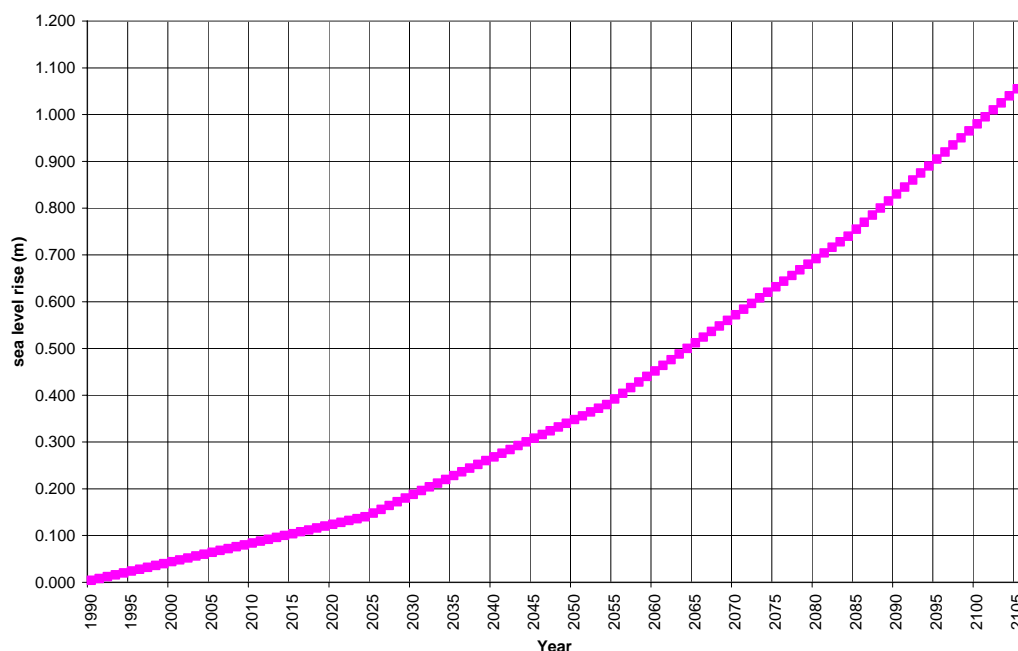
Relative sea level rise

5.2 The Government has issued guidelines on projected sea level rise to be used for planning purposes. On the south coast sea level rise is caused by the gradual sinking of the land surface relative to the sea - combined with the global phenomenon of thermal expansion of the oceans caused by global warming. The melting of glaciers and ice sheets is also contributing to this phenomenon. The current Defra guidance⁵ is provided in **Table 2** and illustrated in **Figure 3**. These figures are likely to be revised as scientific understanding and knowledge improves.

Table 2: Projected sea level rise (source: Defra sea level rise rates, 2006⁵)

Net sea level rise (mm/year)				
1990 - 2025	2025 - 2055	2055 - 2085	2085 - 2115	<i>Previous Defra estimate(2002)</i>
4 mm/year	8 mm/year	12 mm/year	15 mm/year	<i>6 mm/year</i>

Figure 3: Relative sea level rise predictions for the South coast (source: Defra sea level rise rates, 2006⁵)



Climate change

- 5.3 Other climate related factors (as derived from the UKCIP02 scenarios Hulme *et al.*, 2002¹⁰) are also likely to impact on the coast's special qualities.
- 5.4 Clearly projections of increased frequency and intensity of storms will impact the coast¹⁴. Other features such as the species of inter-tidal and coastal habitats are likely to be influenced by increased temperatures, especially in the winter. Some species of over-wintering birds, for example, are already responding to changes in terms of their population levels, distribution and behaviour. The coast is likely to see the reduction and/or loss of some familiar species and the arrival of others. Human behaviour is also likely to change. Some of these impacts are summarised in **Table 4**.

Table 4: Potential consequences of likely climate change^{11,12,14}

Winter	On average winters are predicted to become wetter and milder leading to increased flood risk
Summer	On average, summers will be much hotter and longer but with lower rainfall. Greater warming in summer and autumn than in winter and spring. Greater day-time than night-time warming in summer. This could result in: <ul style="list-style-type: none"> ▪ increased tourism and leisure as people escape to the sea side – with enhanced opportunities for business activity ▪ changes in species and habitats ▪ increase in hot weather health problems ▪ increase in low river flows and water quality problems ▪ increased tree stress and loss

	<ul style="list-style-type: none"> ▪ coastal marshes and estuarine mud act as a major sink for atmospheric carbon – this may be threatened by increased temperature and erosion
Wind speed	<ul style="list-style-type: none"> ▪ Possible higher wind speeds leading to more frequent risk of damage to essential infrastructure and an increased likelihood of large insurance claims ▪ Winter depressions become more frequent including deepest ones which combined with sea level rise could result in an increased frequency and severity of flood events. A likely increase in the risk of injury and death arising from these as well as a rise in the levels of stress and anxiety of those living in the coastal fringe
Rainfall	<p>Extreme rain events may happen twice as often by the 2080s leading to an increase in flood risk and risk of damage to essential infrastructure / increased likelihood of large insurance claims. Heavy rainfall episodes in winter become more common</p>

Pressure for development

- 5.5 The New Forest National Park coastline and foreshore is the least developed frontage in the Solent. This appears to be related to historic land ownership patterns; most of the coast is managed by a few large country estates and Hampshire County Council - and they have traditionally resisted inappropriate over-development. New Forest District Council has also long had an appreciation of the coastline's special qualities and has applied appropriate planning policies for a number of years.
- 5.6 Some limited development has taken place in specific locations and economic drivers across the south east and within the National Park continue to impact on the National Park coast. Examples of development pressures that have already been proposed include:
- new and changed recreational facilities (e.g. landing stages)
 - private coastal protection works
 - new housing and business premises
 - new community facilities
 - increased coastal access and related infrastructure
 - increased pressures to provide greater transport capacity to meet the Isle of Wight's economic needs.
- 5.7 Terrestrial development away from the coast may also have an ecological impact on the inter-tidal and estuarine environment through diffuse and point source pollution from agriculture, business, industry, housing and recreational activity. This contamination may affect nature conservation, recreation and fishing interests (particularly in terms of the quality and quantity of shell fish and crustaceans). There are currently concerns about water quality at several locations in the National Park and further inland development pressure could have direct consequences on the coast if waste products are not effectively treated¹³.

Legislative change

- 5.8 As outlined in **Annex 2**, European and national legislation and policy already has a significant influence on the coast (for example, the Defra High Level Targets for Coastal Authorities, the Food and Environmental Protection Act, 1995 and the Conservation (Natural Habitats, etc) Regulations, 1994). Forthcoming legislation and policy are likely to continue to influence coastal policy and management. Of particular note are the following:
- the proposed Marine Bill likely in 2008/09
 - implementation of the Water Framework Directive
 - coastal access provisions – likely in 2010.

Loss of salt marsh habitat, coastal squeeze and European wildlife legislation

- 5.9 Salt marshes currently provide shelter and coastal protection to extensive sections of the shoreline frontage. They function in this way either by preventing waves from reaching the shore or by reducing the height and energy of those waves that do make landfall. The marshes are composed of very fine silt and mud held together by vegetation – and as such they are only stable in very low energy, sheltered locations.
- 5.10 Human activities and their associated assets and facilities have generally been located and designed on the assumption that the salt marshes are a permanent feature that will continue to provide shelter in future. This is not a safe assumption.
- 5.11 The rapid retreat and erosion of salt marshes around the Western Solent has been monitored by New Forest District Council¹ for 15 years and is now well documented. It is expected that most salt marsh, certainly in the more exposed locations, will have disappeared from the National Park coast in the next 30 - 40 years¹. In Lymington, the rate of retreat of the edge of salt marshes is recorded at between 0.3 – 5.0 m/year¹. This will clearly leave many assets increasingly exposed to wave action in the coming decades and drive the demand for additional coastal protection.
- 5.12 This problem is already being experienced at Lymington harbour. The rapid erosion of marsh and resulting loss of shelter has increased the frequency with which waves penetrate into the harbour. Due to the harbour's design and location, this is already affecting harbour operations.
- 5.13 The process of erosion is not fully understood but seems to be the result of a number of factors acting in combination^{1,3}:
- inadequate supply of sediment resulting in little deposition of material on the marshes to replenish lost silt;

- rising sea levels and increased turbidity caused by changes in tidal currents which reduces the extent to which sediment settles. The ebb currents are also dominant in the Solent which may draw fine sediments offshore and away from the marshes;
 - die-back of salt marsh grasses and vegetation in the Solent – this may be due to a natural cyclical process or due to changing conditions on the marshes;
 - enhanced wave erosion and under-cutting of the salt marsh edge due to increased windiness and exposure;
 - the salt marshes appear to be relatively recent in age – having developed in the late 19th century as salt marsh grasses became established on mudflats and the marshes rapidly expanded. Their retreat and loss since around the 1920s may be part of a natural cyclical process.
- 5.14 As the marshes retreat, the internationally designated habitats (mostly salt marsh, inter-tidal mudflats and the sub-tidal sea bed) are often prevented from migrating further inland by sea defences or topography. This phenomenon is termed *coastal squeeze*. European wildlife legislation may serve as a key driver to recreate new habitat inland to make up for the losses.
- 5.15 In an ideal world, such habitats would be able to *roll-back* inland as sea level rises but this cannot happen in many sites due to the presence of valuable assets. A policy of managed retreat or realignment of defences / assets may be desirable in some locations. A number of studies are currently looking at potential locations although the options are limited and difficult in the National Park.

Availability of resources

- 5.16 The current national budget for coastal and flood protection is around £600 million and will rise to £800 in 2010-11⁵. Central government, via Defra, determines the priorities for how this resource is allocated taking a *cost-benefit analysis* approach. Bearing in mind the very high costs of coastal defences, it is unlikely that the New Forest National Park coastline will be a high priority for major investment in coastal and flood protection compared with other low lying and more densely populated / developed parts of England.
- 5.17 Against a background of constant sea level rise, the key question is whether further investment in expensive engineered solutions to coastal protection is an economic or practical option in all situations. In terms of a sustainable and holistic approach to the management of the coast, there is a strong policy argument for promoting and enabling dynamic natural processes to function. In other words to apply the *no active intervention* policy to significant sections of the coastline. This would allow:
- the physical coastline to respond naturally and adapt to sea level rise and climate change;

- habitats and species to adapt to climate change by migration;
- natural habitats to function as soft coastal defences without incurring unsustainable capital and maintenance costs;
- in effect, the strong national demand for resources from limited budgets for coastal protection may determine the approach in the long term.

5.18 However, this approach will lead to considerable anxiety and stress for those living or working in *at risk* areas when faced with the potential loss of property and assets or the alternative of having to migrate inland⁵. There is likely to be 'inadequate stakeholder consensus'¹⁵ as the consequences of such decisions are better understood by both politicians and the public.

6 Key Issues

6.1 Some of the key issues which need to be taken into account in policies and plans affecting the coastline of the National Park, and which arise from the factors driving change are set out below.

Sea level rise

6.2 A significant area of the coastal hinterland is at risk of inundation particularly during storm events:

- the existing sea wall defences at Lymington – Keyhaven were designed to have a 50 – 60 years lifespan and to function with salt marshes on the seaward side¹;
- a number of properties are at risk in the National Park – and there are:
 - potential threats to life or injury
 - the threat of damage to property and potential reductions in the financial value of property
 - disruption of the life of local communities and damage to community facilities
 - disruption and damage to business and economic activity;⁶
- two landfill sites are vulnerable;
- farmland and woodland is vulnerable to loss;
- a range of cultural heritage assets are present within the coastal fringe.

6.3 As sea level rises, inland rainfall events are more likely to cause flooding as water backs up from the sea and has nowhere to escape.⁶

6.4 There is currently no compensation available for owners of properties at risk of coastal flooding – making retreat inland out of the path of sea level rise more difficult.

- 6.5 Local operating authorities have no statutory duty to undertake coastal defence and they have a degree of discretion over public expenditure priorities. If it was made a duty to exercise the relevant powers, public authorities could be open to claims for compensation should flooding and property damage occur¹.
- 6.6 There are questions over whether the cost and benefit of defending the coast outweigh the cost of losing the assets which are at risk.
- 6.7 There is continued demand for development in the flood risk zone – what types of development, if any, should be permitted in this area?

Coastal squeeze

- 6.8 Rapid retreat of salt marshes and mudflats means the loss of high value, designated habitats for nature conservation.
- 6.9 If there is a policy of managed retreat, can suitable sites be found inland to replace the designated habitats that are being lost?
- 6.10 Designated saline lagoons (brackish freshwater habitats and their associated species) are generally rare in the UK and lie behind the sea wall between Lymington and Keyhaven. If the sea wall is breached for the purpose of managed realignment (or through any decision not to reinforce the sea wall) an equally important designated habitat will be lost. There is a potential conflict between the relative value of and need to sustain habitats either side of the defences.
- 6.11 Soft coastal cliffs at Lepe and Stanswood Bay are reliant on continued natural processes of erosion and are vulnerable to inappropriate hard coastal defences which prevent further erosion and sediment transport.
- 6.12 Landowners are frequently reluctant to surrender their land or assets to the sea for a variety of reasons including the absence of adequate compensation.
- 6.13 As the shelter provided by the marshes is reduced, important economic activities may be affected – for example, penetration of enhanced wave action will increasingly disrupt the berths, facilities and navigation channels of Lymington harbour.

Coastal and flood defence works

- 6.14 Will flood defence structures damage the landscape value of the National Park?
- 6.15 Will hard defence structures alter unacceptably the dynamic natural processes of the shoreline and its capacity to respond and adapt to rising sea level?
- 6.16 Coastal flood defence works have knock-on impacts, for example on the circulation and movement of sediment which may reduce the

protection provided by natural features in other parts of the coast. The flow of shingle to Hurst Spit, for instance, has been reduced by coastal protection around the cliffs of Barton and Milford. As Hurst Spit provides a major role in protection for Keyhaven and Lymington, this has required the ongoing artificial replenishment of the Spit by New Forest District Council at considerable public expense.

- 6.17 There is a significant question over the level of public funding and resources that may be available in future to maintain or improve sea defences – even if it is decided that they are desirable. Should private individuals be permitted to fund their own defences as long as they are consistent with the wider strategy for coastal defence? Works proposed by 'private' land owners require the approval of several bodies including the National Park Authority (often such works will also require planning permission), the District Council, Natural England, the Environment Agency and possibly the Marine and Fisheries Agency.

Cultural heritage

- 6.18 There is potential loss or damage to historic sites (e.g. Calshot and Hurst Castles, Beaulieu Abbey, World War II sites), conservation areas and other non designated or unlisted archaeology.
- 6.19 There is an inadequate knowledge of the historic landscape and archaeological resource.
- 6.20 A strategy for conserving and managing sites at risk is required.

Landscape

- 6.21 Flooding and sea level rise will not necessarily damage the attractiveness of the National Park land and seascape, so this is not considered to be an issue. However, insensitive coastal defence works have the potential to cause significant visual impacts that may be undesirable.

Recreational activity

- 6.22 The threats to harbours and marinas may adversely affect recreational sailing and water based activities.
- 6.23 Flooding and coastal erosion (and potentially defence structures) may affect the accessibility of the shoreline.
- 6.24 Sea level rise is threatening the recreational facilities at Lepe Country Park and Hampshire County Council is investigating whether they can be re-located.
- 6.25 Coastal access proposals will need to take into account future coastal change.

Nature conservation

- 6.26 There will be loss of designated habitats and species through coastal squeeze and erosion. Can the creation of new habitats replace those that are lost?
- 6.27 Can the demands for future development and coastal protection meet the tests and standards required by European legislation so as not to cause an adverse impact on the integrity of site features?

Local communities and economic interests

- 6.28 The level of awareness about coastal change is variable and a considerable effort is required to explain the issues and seek a consensus about the best policies to follow on the coast¹⁵.
- 6.29 Can we apply the precautionary principle – of not interrupting natural processes – in the face of pressure for development?

7 Conclusions

- 7.1 The Authority will need to collaborate closely with key partners and stakeholders to develop a suite of sustainable plans and policies for the coast as part of the local development framework and its development control policies.
- 7.2 It is important that the Authority also continues to support the preparation of policies and plans of other organisations such as the Shoreline Management Plan currently being developed by New Forest District Council. Plans and strategies must be as consistent as possible and integrated across organisational boundaries if integrated coastal zone management in the New Forest is to be achieved.
- 7.3 Statutory agencies face a major challenge if they are to communicate coastal issues, hazards and risks effectively and also engage in a meaningful dialogue with stakeholders. Resources and commitment will be required if a satisfactory consensus between local communities and coastal planning agencies over coastal management is to be achieved⁸.

Recommendation:

To comment on and note the report.

References and further useful sources of information

- 1 New Forest District Council website www.nfdc.gov.uk as at January 2008.
- 2 New Forest National Park Authority GIS and Authority Paper on coastal access: NFNPA 202/07.
- 3 Tubbs, C.R. (1999), *The ecology, conservation and history of the Solent*. Packard.
- 4 Local Government Association website: www.lga.org.uk as at January 2008.
- 5 Defra website www.defra.gov.uk as at January 2008.
- 6 New Forest District Council / New Forest National Park Authority Strategic Flood Risk Assessment, 2007 available at www.newforestnpa.gov.uk.
- 7 Solent Forum website: www.solentforum.hants.org.uk as at January 2008.
- 8 Local Government Association website: www.lga.org.uk as at January 2008.
- 9 New Forest National Park Authority website: www.newforestnpa.gov.uk. as at January 2008.
- 10 Hulme, M., Jenkins, G.J., Lu, X., Turnpenny, J.R., Mitchell, T.D., Jones, R.G., Lowe, J., Murphy, J.M., Hassell, D., Boorman, P., McDonald, R. and Hill, S. 2002. *Climate Change.Scenarios for the United Kingdom: The UKCIP02 Scientific Report*. Tyndall Centre for Climate Change Research, School of Environmental Sciences, University of East Anglia, Norwich. www.ukcip.org.uk
- 11 South East Climate Change Partnership, SECTORS Report 2004. website www.climatesoutheast.org.uk.
- 12 South West Region Climate Change Impacts Scoping Study, 2003.
- 13 Discussions at the New Forest River Basin Management Plan Workshop February 2008.
- 14 Authority Paper on climate change: NFNPA 152/07.
- 15 Defra: Summary of responses to the Marine Bill consultation 2007 quoted in Girling, R. (2007), *Sea Change: Britain's Coastal Catastrophe*. Eden Project Books.

The legislative, policy and planning framework for the coast

Key legislation	
Coast Protection Act, 1949	Regulates coastal defence and establishes responsibility of maritime local authorities for coastal defence
Food and Environment Protection Act, 1985	A fundamental piece of legislation that regulates anything that is deposited in the sea including construction – and aggregates extraction
Land Drainage Act, 1994 Water Resources Act, 1991 Water Act, 2003 Environment Act, 1995	Regulates drainage into coastal waters and flood management – and gives a range of regulatory powers to the Environment Agency
Water Framework Directive 2000/60/EC	A detailed framework for the improved protection and management of water, from source to sea (out to 1 km from the shore), and requires all inland and coastal waters to reach 'good ecological status or potential' by 2015. It aims to do this by establishing river basin districts within which environmental standards and objectives will be set, including ecological targets for surface waters – there is a statutory requirement to produce a River Basin Management Plan (RBMP) by 2009
<i>Forthcoming Marine Bill</i>	As discussed by the Authority in 2006 (NFNPA 99/06 refers)
Plans and guidance	
Solent European Marine Scheme	A management scheme for the European designated nature conservation sites in the Solent
Land use management plans arising from the Planning and Compulsory Act, 2004	<ul style="list-style-type: none"> ▪ Regional Spatial Strategies – the South East Plan ▪ Local Development Frameworks (including a strategic flood risk assessment) ▪ If the Marine Bill is enacted, the terrestrial planning system is likely to be mirrored by a new system for Marine Spatial Planning. The key issue is how the terrestrial and marine plans will be integrated on the shoreline
National planning policy context	Planning Policy Guidance 20: Coastal Planning , 1992 - discusses the types of coasts, policies for their conservation and development and policies covering risks of flooding, erosion and land instability, as well as coastal protection and defence. It outlines policies for developments which may specifically require a coastal location, including tourism, recreation, mineral extraction, energy generation and waste water and sewage plants

	<p>Planning Policy Guidance 25: Development and flood risk, 2006 - aims to ensure that flood risk is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas of highest risk. Where new development is, exceptionally, necessary in such areas, policy aims to make it safe, without increasing flood risk elsewhere, and, where possible, reducing flood risk overall.</p>
	<p>Planning Policy Guidance 14: Development on unstable land</p>
	<p>Making space for water: a Defra strategy which aims to take a holistic approach to management of risk from all forms of flooding: Defra's policy is to reduce risks to people, property and the environment from flooding and coastal erosion through the provision of defences, flood forecasting and warning systems, increased flood resilience of property, beneficial land management changes and discouragement of inappropriate development in areas at risk of flooding.</p>
Defra High Level Targets	<p>These set the government's expectations of maritime operating authorities for strategic coastal management including the suite of plans described below. The intention is to:</p> <ul style="list-style-type: none"> ▪ reduce risks to people, life and property; ▪ reduce risks to the developed and natural environment from flooding and coastal erosion; ▪ preserve the character of the area and region; ▪ inform planning; ▪ process and control development on the coast.
	<p>Shoreline management plans (SMPs):</p> <ul style="list-style-type: none"> ▪ Shoreline Management Plans are high level documents that provide an assessment of the risks associated with coastal processes and present a long term policy framework to reduce these risks to people and the developed, historic and natural environment in a sustainable manner; ▪ an SMP forms an important element of the strategy for flood and coastal erosion risk management and coastal protection works will not be awarded grant in aid funding by Defra unless they are identified in the relevant SMP; ▪ the first SMP for the Western Solent was completed in 1998. The preparation of the Second SMP is now underway. <p>In policy terms, four strategic options can be considered for any particular stretch of coastline.</p>

	<p>These are:</p> <ul style="list-style-type: none"> ▪ Hold the line (i.e. maintain or upgrade the level of protection provided by sea defences); ▪ No active intervention (i.e. do nothing and allow natural processes to operate); ▪ Managed realignment (i.e. manage the retreat of the coastline in a planned and coordinated manner. This may involve removing existing defences and create a new line – potentially creating new habitats and soft defences); ▪ Advance the line (i.e. construct new defences and reclaim land from the sea). <p>Under the current funding circumstances, climate change and legislation, it is likely that <i>advancing the line</i> will become an exceptional approach. The high costs and technical difficulties associated with <i>holding the line</i> will require detailed cost-benefit analysis to justify the investment from the UK Government. The remaining two options are likely to be applied to many sections of coastline.</p>
	<p>Coastal Defence Strategy:</p> <ul style="list-style-type: none"> ▪ The main instrument for detailed implementation of SMP policies. This ensures that coastal erosion and tidal flooding problems are dealt with in a strategic manner, rather than on a local basis. ▪ The output is a prioritised programme of works and management programmes, including preferred engineering options. ▪ The flood and coastal defence operating authorities have permissive powers to undertake works to manage risk - there is no statutory obligation on them to do so and thus no statutory right to levels of protection. ▪ Individuals and communities will have variable standards of defence according to geography, the operating authorities' different approach and priorities, and the varying ratio of benefits and costs from providing particular defences. ▪ Prepared for the New Forest by New Forest District Council in 2004.¹
	<p>Coastal Protection Schemes:</p> <ul style="list-style-type: none"> ▪ Coast protection schemes are specific capital projects that arise from CDS studies; they typically include a phased programme of works, maintenance and monitoring.

<p>Coastal Habitat Management Plans (CHAMPS)</p>	<p>CHAMPS, prepared by Environment Agency and Natural England, quantify habitat change, (loss and gain), and recommend measures to prevent future losses. These include modifying flood and coastal defence options to avoid damage, or identifying the necessary habitat restoration or recreation works to compensate for unavoidable losses. They look at the cumulative impact on these features over a 30-100 year timescale.</p>
<p>Other relevant non-statutory plans</p>	
<p>New Forest Coastal management plan / Coastal Strategy 2001</p>	<p>The document is non-statutory but provides valuable links between the District Local Plan and the Shoreline Management Plans and reviews the issues occurring within that location and identify management measures to address these.¹</p>
<p>Biodiversity action plans</p>	<p>Under preparation for the New Forest</p>
<p>Harbour Management Plans</p>	<p>E.g. The Keyhaven River Management Strategy. Estuary and Harbour Management Plans, prepared by Harbour Authorities, review the uses and issues that take place within that harbour or estuary and seek to promote good practice and resolve any conflicts. They also facilitate partnership working for all the relevant stakeholders and develop partnership based projects.</p>
<p>SOLFIRE</p>	<p>The SOLFIRE plan is the voluntary emergency plan covering maritime incidents in the Solent. The Solent is divided into SOLFIRE West, SOLFIRE East and SOLFIRE South with command centres at Southampton, Portsmouth and Lee-on-the-Solent respectively. This plan includes SOLSPILL, the reporting system for oil spillages. The Marine Coastguard Agency takes the lead role in all maritime pollution and search and rescue incidents. Local authorities have responsibilities for marine emergencies (such as oil pollution or stranded passengers) once they come ashore.</p>

Relevant organisations and their responsibilities

Key Organisation	Role and responsibilities
<p>Department for Environment, Food and Rural Affairs (Defra)</p>	<ul style="list-style-type: none"> ▪ The lead government body for the development of national coastal and flood defence policy, the marine environment, fisheries, biodiversity, access and recreation, water policy, coastal policy, and Integrated Coastal Zone Management; ▪ Holds and determines where the budget for coastal defence is spent (using the shoreline management plans which it signs off and approves); ▪ Sponsors - the Environment Agency, the Marine and Fisheries Agency, Natural England and The New Forest National Park Authority.
<p>The Environment Agency</p>	<ul style="list-style-type: none"> ▪ The leading public body for protecting and improving the environment in England and Wales; ▪ Responsible for reducing the likelihood of flooding from rivers and the sea – including maintenance and repair of flood defence structures (usually walls or banks) some of which are coastal - using powers conferred by the Water Resources Act 1991 and the Land Drainage Act 1994; ▪ Warning people about the risk of flooding; ▪ Issues relevant coastal consents to developers under the Drainage Act 1994; ▪ Responsible for overseeing / implementing actions required to meet the Water Framework Directive by 2015; maintaining and improving the quality of water in rivers, the sea and underground; ▪ Prevention of pollution / issuing of discharge consents.

<p>New Forest District Council (NFDC)</p>	<ul style="list-style-type: none"> ▪ The <i>Coast Protection Authority</i> charged with managing coastal protection in the National Park under the Coast Protection Act, 1949 – often referred to as the <i>Operating Authority</i>; ▪ Responsible for installation and maintenance of publicly owned coastal protection works to protect parts of the coast from erosion by the sea; ▪ This is a non-statutory duty and depends on Defra funding; ▪ Employ a Coastal Group which is widely regarded as a centre of excellence for research and coastal policy – and has developed specialist expertise in coastal processes, coastal engineering, beach and cliff monitoring, hydrographic surveying, saltmarsh management, hydrodynamic and sediment transport modelling, and GIS; ▪ The South East Strategic Regional Monitoring Programme is coordinated by NFDC Coastal Group on behalf of 31 local authorities and the Environment Agency and makes a major contribution to the Channel Coast Observatory and SCOPAC; ▪ NFDC are leading the preparation of the Second Shoreline Management Plan for the North Solent from Barton-on-Sea to Selsey Bill.
	<p>The District is also responsible for:</p> <ul style="list-style-type: none"> ▪ Public facilities: access roads, public car parks, public conveniences and some footpaths; ▪ Recreation: licensing of some activities and encouraging coastal recreation and tourism; ▪ Moorings in council ownership; ▪ Cleansing of beaches and coastal open spaces; ▪ Food safety: supervision of shellfish cleaning; ▪ Management of land owned or leased by the council; ▪ Making and enforcing local byelaws.
<p>Marine and Fisheries Agency</p>	<ul style="list-style-type: none"> ▪ This national agency has overall responsibility for the enforcement of the Common Fisheries Policy and the marine consents system covering the control of coastal and marine developments, including coast defences, wind farms, wave and tidal power, disposal of marine dredgings at sea, contingency planning for oil spills and other marine pollution, and marine sand and gravel extraction; ▪ Responsible for managing coastal consents

	<p>under the Food and Environment Protection Act, 1985.</p>
Natural England	<ul style="list-style-type: none"> ▪ Natural England is a public body committed to conserving and enhancing the natural environment and is the statutory nature conservation adviser to government; ▪ Its role is to work for people, places and nature, to enhance biodiversity, landscapes and wildlife in rural, urban, coastal and marine areas; promote access, recreation and public well-being; and contribute to the way natural resources are managed so that they can be enjoyed now and in the future. ▪ Natural England regulates potentially damaging operations on designated nature conservation sites and provides advice on the application of the Habitats Regulations on the coast – including a role in advising on appropriate assessments.
Solent Forum	<ul style="list-style-type: none"> ▪ Is one of many voluntary coastal partnerships which aim to bring the broad range of interests in the coastal community together to address issues of concern, share best practice, facilitate communication and collaborate over coastal matters; ▪ In so doing it makes a contribution towards integrated coastal zone management; ▪ Provides training, organises workshops and coordinates research programmes / collates information about the Solent; ▪ The Forum employs a small staff and is funded through partner contributions.
Non-governmental organisations	<ul style="list-style-type: none"> ▪ For example, Hampshire and Isle of Wight Wildlife Trust, The National Trust, The Solent Protection Society, Hampshire and Wight Trust for Maritime Archaeology; ▪ Usually campaign to conserve and enhance the coastal environment and in some cases own or manage coastal sites – or undertake specific projects.
European Atlantic Isles Coastal Sub-group	<ul style="list-style-type: none"> ▪ Part of the Europarc consortium; ▪ Acts as a discussion forum for protected landscapes on the coast.
Hampshire County Council	<ul style="list-style-type: none"> ▪ Hampshire County Council is a significant coastal landowner in the New Forest and the Harbour Authority for the River Hamble; ▪ And takes a strategic view of the Hampshire coast.
Standing Conference on Problems Associated with the Coast	<ul style="list-style-type: none"> ▪ The Standing Conference on Problems Associated with the Coast is a standing network of operating authorities who share

(SCOPAC)	<p>resources to research coastal issues;</p> <ul style="list-style-type: none"> ▪ it works to promote sustainable shoreline management by local authorities and other organisations managing the coastal zone of central southern England; ▪ Website: http://www.scopac.org.uk.
Channel Coast Observatory	<ul style="list-style-type: none"> ▪ The Channel Coastal Observatory is run by New Forest District Council at the Southampton Oceanography Centre to undertake and coordinate the collection, management and dissemination of the coastal data; ▪ See the website at http://www.channelcoast.org
Lymington Harbour Commissioners	<ul style="list-style-type: none"> ▪ Lymington Harbour Commissioners are the statutory harbour authority for Lymington and their activities and powers come from various specific Acts of Parliament; ▪ The Commissioners are responsible for managing the harbour and shipping activities at Lymington and the coastal waters immediately outside for the purposes of ensuring the navigation and safety of vessels using them; ▪ The Department of Transport has responsibility for the safety of navigation within the Western Solent, as this currently lies outside the jurisdiction of any of the harbour authorities.
The Local Government Association	<p>Runs a Coastal Issues Special Interest Group to discuss and share best practice in coastal policy and management.</p>

Current policies on the National Park Coastline

The table below sets out the current shoreline management policies for each Management Unit, as determined through the first round of Shoreline Management Plans (the Western Solent and Southampton Water SMP 1998, and the Eastern Solent and Harbours SMP 1997). Units which have a Beach Management Plan (BMP) are also indicated.

Coastal units and current management policies in the National Park (extracted from the current SMP apart from italics)

Unit code	Unit	Policy	Description of the unit
CBY7	Hurst Beach	Hold the Line / BMP	Hurst Spit to Castle Point – <i>active maintenance and shingle recharge as a key defence feature. Most of the spit (but not its base) from near the bridge at Salt Grass lane falls within the New Forest National Park.</i>
LYM1	Hurst Castle to Hurst Spit North Point	Do Nothing / BMP	The east facing recurve of Hurst Spit is represented here. Historic Hurst Castle remains the main feature. The natural development of the spit should be allowed to continue.
LYM2	Hurst Spit North Point to Saltgrass Lane	Do Nothing	The shingle bank gives way to saltmarshes on this north facing section of Hurst Spit. The spit provides flood protection to Keyhaven, Milford-on-Sea and the coast further to the east.
LYM3	Saltgrass Lane to Lymington Yacht Haven	Hold the Line	Keyhaven is the important residential development, in this largely undeveloped unit. It is low-lying and dependent on Hurst Spit and the concrete sea defences to provide protection from coastal flooding. The effectiveness of the flood defences is linked to the existence and future management of the fronting saltmarshes.
LYM4	Lymington River	Hold the Line	On the west bank, Lymington town has developed to the river edge, while the east bank consists of the Wightlink ferry terminal and some housing and industry. The river itself has significant areas of saltmarsh. Developments on both banks of the river require flood protection.
LYM5	Elmers Court Country Club to Pitts Deep	Retreat the Line	This low lying coastline is fronted by international important but eroding saltmarsh, with little hinterland development. Pitts Deep has historical significance as a former saltern site. Privately owned frontage and limited extent of defences.
LYM6	Pitts Deep to Warren Beach Cottage	Hold the Line	This frontage consists of a sand and shingle beach of international nature conservation value. There are developments around Thorns Beach, with the whole unit low lying. Privately owned frontage and defences.

L YM7	Warren Farm Spit	Do Nothing	Warren Farm Spit and Gull Island together shelter the Beaulieu River from severe wave activity. The saltmarsh that fronts this management unit is of international nature conservation value, and is part of the North Solent National Nature Reserve. These factors make preservation of the spit and island important. Privately owned frontage and limited extent of defences.
L YM8	Beaulieu River	Hold the Line	Undeveloped and mostly agricultural, the hinterland along the banks of the Beaulieu River fall within an extensive flood risk area. The entire frontage is of international nature conservation value while archaeological remains, some dating from the Iron Age, exist inland. Privately owned frontage and limited extent of defences.
L YM9	Inchmery to Lepe	Hold the Line	Inchmery marks the beginning of a low cliff frontage which is partially undeveloped along with historic Lepe House, the Watch House and the Coastguard Cottages. Privately owned frontage and limited extent of defences.
L YM10	Lepe to East of Stone Point	Hold the Line	Lepe Country Park is the most significant feature in this unit. The flood risk extends a considerable distance inland affecting much of the National Nature Reserve. Maintenance of the existing defence line will protect the public facilities and road that serve Lepe Country Park. Frontage and defences owned by Hampshire County Council and private individuals.
L YM11	East of Stone Point to South of Bourne Gap	Hold the Line	This unit is mostly low lying agricultural land of international nature conservation value. Privately owned frontage and defences.
L YM12	South of Bourne Gap to Hill Head (Calshot)	Hold the Line	Low-lying cliffs front this unit, backed generally by undeveloped or agricultural land. Scattered properties at Eaglehurst and Hillhead form the only significant development. Eroding cliffs pose a threat to these areas. Privately owned frontage and defences.
L YM13	Hillhead to Calshot Spit	Hold the Line	Calshot Spit stems from the north end of this unit with a sand/shingle beach that widens as it progresses eastwards. The area sustains much nature conservation interest for its bird population and backs onto reclaimed land. Existing defences were constructed to not only preserve the spit but to low-lying lands within Southampton Water, where high-value development exists. Existing defences are critical to the protection of power station and oil refinery facilities in the lee of the spit
L YM14	Calshot Spit to Calshot Spit Jetty	Hold the Line	is a stabilised shingle bank hosting a multitude of interests including nature conservation, historical and recreational. Calshot Activities Centre is one of the UK's leading outdoor recreational centres.

			Calshot Castle, like Hurst Castle, was built for maritime defence, but the spit has a larger role in protecting the saltmarsh and mudflats in its lee from wave activity. Frontage and defences owned by Hampshire County Council.
FAW1	Lee of Calshot Spit	Hold the Line	This coastline is a low energy environment characterised by saltmarshes and mudflats, within the Calshot Marshes Local Nature Reserve. Much of the land is undeveloped while its waters are used for sports activities generated by the facilities on Calshot Spit. Defences are aimed at the prevention of flooding protecting developments on the spit. Frontage and defences owned by Hampshire County Council
FAW2	Calshot Spit to Fawley Power Station	Hold the Line	This unit is mostly reclaimed land, locally known as Tom Tiddler's Ground; this grassland is of local nature conservation importance while its fronting saltmarshes and mudflats are of international nature conservation value. Frontage owned by Hampshire County Council.
FAW3	Fawley Power Station	Hold the Line	The Fawley Power Station lies on low-lying reclaimed land susceptible to flooding. This still poses a danger to the facilities although the main buildings are above flood levels. The industrial presence has not undermined the international nature conservation value of the fronting saltmarsh and mudflats. The power station being a major economic asset requires protection against flooding through maintenance and renewal of existing defence structures.
FAW4	Fawley Power Station to Fawley Oil Refinery	Hold the Line	This mostly undeveloped coastline is owned by Esso and backed by the village of Fawley and the hamlet of Ashlett. Agricultural land belonging to Cadland Estate completes the hinterland. It is necessary to ensure flooding is prevented along this coastline in order to protect assets.

Source: www.newforest.gov.uk/ (pages for the North Solent Shoreline Management Plan)